line 6, change "e" to --the--.

IN THE CLAIMS:

Please cancel claims 1-14, without prejudice or disclaimer, and add new claims 15-90, as follows:

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--15. An image forming apparatus, comprising:

a light beam generating device configured to generate a light beam;

a light beam modulating device configured to modulate the light beam in accordance with an image signal at a prescribed write clock frequency;

a light beam deflecting device configured to rotate by a prescribed rotation number and deflect the light beam so as to scan an image carrier in a main scanning direction;

a pair of light beam detecting devices configured to detect the light beam, said pair of light beam detecting devices being separately positioned in the main scanning direction;

a time difference determining device configured to determine a time period elapsing from when the light beam is detected by a first of said pair of light beam detecting devices to when the light beam is detected by a second of said pair of light beam detecting devices, said time difference determining device generating a time difference signal at an optional timing of image formation;

a comparing device configured to compare the time difference signal with a reference time difference signal representing preferable magnification so as to recognize magnification error of the light beam in the main scanning direction;

a magnification correcting device configured to correct the magnification error by changing the prescribed write clock frequency and the prescribed rotation number to prescribed levels based on a result of a comparison between the time difference signal and the reference time difference signal by said comparing device; and

a visualizing device configured to visualize an image formed on the image carrier after the magnification error is corrected.

16. An image forming apparatus for forming a color image by superimposing different mono color images, said image forming apparatus comprising:

a plurality of light beam generating devices configured to generate a plurality of light beams;

a plurality of light beam modulating devices configured to modulate the plurality of light beams in accordance with an applicable mono color image signal at prescribed write clock frequencies;

at least one light beam deflecting device configured to rotate by a prescribed rotation number and deflect the plurality of light beams so as to scan an image carrier in a main scanning direction;

at least one pair of light beam detecting devices configured to detect the plurality of light beams, said at least one pair of light beam detecting devices being separately positioned in the main scanning direction;

a time difference determining device configured to determine a time period elapsing from when the light beam is detected by a first of said at least one pair of light beam detecting devices to when the light beam is detected by a second of said at least one pair of light beam detecting devices, said time difference determining device generating a time difference signal at an optional timing during image formation;

a comparing device configured to compare the time difference signal with a reference time difference signal representing preferable magnification so as to recognize magnification errors of the light beams in the main scanning direction;

a magnification correcting device configured to correct the magnification errors by changing both of the prescribed write clock frequencies of the plurality of light beams and the prescribed rotation number to prescribed levels based on a result of comparison between the time difference signal and the reference time difference signal by the comparing device; and

a visualizing device configured to visualize and superimpose different mono color images formed on the image carrier after the magnification errors are corrected.

17. The image forming apparatus according to claim 15 or claim 16, wherein said magnification correcting device continuously corrects the magnification errors until a time difference indicated by the time difference signal substantially accords with the reference time difference indicated by the reference time difference signal.

18. The image forming apparatus according to claim 15 or claim 16, wherein the prescribed rotation number is determined by a prescribed pulse clock frequency.

19. The image forming apparatus according to claim 18, wherein both of the prescribed write clock frequencies and the prescribed pulse clock frequency are changed to prescribed levels, the prescribed levels being obtained from a magnification correction table.

20. The image forming apparatus according to claim 15, wherein both of the prescribed write clock frequencies and a prescribed pulse clock frequency are changed to prescribed levels, the prescribed levels being obtained from a magnification correction table.

21. The image forming apparatus according to claim 19, wherein each of the prescribed levels corresponds to an amount of time difference.

22. The image forming apparatus according to claim 20, wherein each of the prescribed levels corresponds to an amount of time difference.

23. The image forming apparatus according to claim 16, wherein said at least one light beam deflecting device and said at least one pair of light beam detecting devices are

provided in each of mono color image forming sections so as to correct said magnification error in each of mono color image forming sections.

24. The image forming apparatus according to claim 16, wherein said at least one light beam deflecting device and said at least one pair of light beam detecting devices are provided in any one of mono color image forming sections so as to correct all of the magnification errors occurring in each of the mono color image forming sections based on a time difference determined from signals of said at least one pair of light beam detecting devices.

A' cont.

25. The image forming apparatus according to claim 15, wherein said magnification correcting device changes the prescribed rotation number of said light beam deflecting device if the magnification errors cannot completely be corrected only by changing the prescribed write clock frequency.

Sub B2

26. The image forming apparatus according to claim 16, wherein said magnification correcting device changes the prescribed rotation number of said at least one light beam deflecting device if the magnification errors cannot completely be corrected only by changing the prescribed write clock frequency.

27. The image forming apparatus according to claim 25, wherein the prescribed rotation number is charged when said magnification correcting device executes correction of the magnification errors and a prescribed amount of the magnification errors remain.

28. The image forming apparatus according to claim 26, wherein the prescribed rotation number is charged when said magnification correcting device executes correction of the magnification errors and a prescribed amount of the magnification errors remain.

29. The image forming apparatus according to claim 25, wherein the prescribed rotation number is not changed if the prescribed amount of the magnification errors remaining cannot be corrected by changing the prescribed rotation number.

30. The image forming apparatus according to claim 26, wherein the prescribed rotation number is not changed if the prescribed amount of the magnification errors remaining cannot be corrected by changing the prescribed rotation number.

31. The image forming apparatus according to claim 15, wherein said magnification correcting device changes the prescribed write clock frequency and the prescribed rotation number after initializing a current rotation number of said light beam deflecting device and wherein a new time difference signal is generated and compared with the reference time difference signal.

32. The image forming apparatus according to claim 16, wherein said magnification correcting device changes the prescribed write clock frequency and the prescribed rotation number after initializing a current rotation number of said at least one light beam deflecting device and wherein a new time difference signal is generated and compared with the reference time difference signal.

33. The image forming apparatus according to claim 31, wherein after initializing the current rotation number, the current rotation number returns to the prescribed level of the prescribed rotation number such that the magnification errors substantially do not occur.

34. The image forming apparatus according to claim 32, wherein after initializing the current rotation number, the current rotation number returns to the prescribed level of the prescribed rotation number such that the magnification errors substantially do not occur.

35. The image forming apparatus according to claim 15 or claim 16, further comprising an image write start position adjusting device configured to adjust an image write

start position of the light beam in the main scanning direction on the image carrier in accordance with the time difference signal.

36. An image forming apparatus, comprising:

a light beam generating device configured to generate a light beam;

a light beam modulating device configured to modulate the light beam in accordance with an image signal at a prescribed write clock frequency;

a light beam deflecting device configured to rotate by a prescribed rotation number and deflect the light beam so as to scan an image carrier in a main scanning direction;

an optical unit configured to include an fθ lens configured to convert the light beam from substantially a uniform angular speed to substantially a uniform speed;

a temperature detecting device configured to detect temperature of said optical unit;

a magnification correcting device configured to correct magnification error of the light beam in the main scanning direction by changing the prescribed write clock frequency and the prescribed rotation number to prescribed levels in accordance with the temperature detected by said temperature detecting device; and

a visualizing device configured to visualize an image formed on the image carrier.

37. The image forming apparatus according to claim 36, wherein said prescribed levels of the prescribed write clock frequency and a clock frequency for the prescribed rotation number are stored in a prescribed reference table corresponding to the temperature.

38. The image forming apparatus according to claim 37, wherein the temperature of said optical unit is a temperature of said fθ lens.

39. An image forming apparatus for forming a color image by superimposing different mono color images, said image forming apparatus comprising:

a plurality of light beam generating devices configured to generate a plurality of light beams;

a plurality of light beam modulating devices configured to modulate the plurality of light beams, respectively, in accordance with an applicable mono color image signal at a plurality of prescribed write clock frequencies;

at least one light beam deflecting device configured to rotate by a prescribed rotation number and deflect the plurality of light beams so as to scan an image carrier in a main scanning direction;

at least one optical unit configured to include an fθ lens configured to convert the plurality of light beams from substantially the uniform angular speed to substantially the uniform speed;

at least one temperature detecting device configured to detect temperature of the optical unit;

a magnification correcting device configured to correct the magnification errors in the main scanning direction by changing the plurality of write clock frequencies of the plurality of laser beams and the prescribed rotation number of said at least one light beam deflecting device to prescribed levels in accordance with the temperature of said at least one optical unit; and

a visualizing device configured to visualize and superimpose different mono color images formed on the image carrier after the magnification errors are corrected.

40. The image forming apparatus according to claim 39, wherein the prescribed rotation number is changed to a substantially smallest level as color deviation does not occur in a sub-scanning direction.

41. The image forming apparatus according to claim 39, wherein the temperature of said at least one optical unit is a temperature of said fθ lens.

42. The image forming apparatus according to claim 39, wherein said at least one temperature detecting device is a plurality of temperature detecting devices which are employed so as to detect a temperature of said fθ lens such that outputs of said plurality of temperature detecting devices are averaged as temperature data.

43. The image forming apparatus according to claim 15 or claim 16, wherein said time difference determining device determines a time difference by counting clock pulses after lowering a light beam deflection speed of said light beam deflecting device to a prescribed speed.

44. The image forming apparatus according to claim 15 or claim 16, wherein said time difference determining device determines a time difference by counting clock pulses after lowering a light beam deflection speed of said at least one light beam deflecting device to a prescribed speed.

45. The image forming apparatus according to claim 43, wherein the prescribed speed of the light beam deflection speed is increased to the prior level after the magnification errors, recognized when the light beam deflection speed is lowered, has been corrected.

46. The image forming apparatus according to claim 44, wherein the prescribed speed of the light beam deflection speed is increased to the prior level after the magnification errors, recognized when the light beam deflection speed is lowered, has been corrected.

47. The image forming apparatus according to claim 15, wherein said light beam deflecting device includes a polygon mirror.

48. The image forming apparatus according to claim 16, wherein said at least one light beam deflecting device includes a polygon mirror.

49. The image forming apparatus according to claim 43, wherein the light beam deflection speed is lowered only when the time difference is to be detected during image formation.

50. The image forming apparatus according to claim 44, wherein the light beam deflection speed is lowered only when the time difference is to be detected during image formation.

51. The image forming apparatus according to claim 49, wherein the light beam deflection speed is returned to a level used for image formation after the magnification error has been corrected.

52. The image forming apparatus according to claim 50, wherein the light beam deflection speed is returned to a level used for image formation after the magnification error has been corrected.

53. The image forming apparatus according to claim 15, wherein said light beam deflecting device starts rotating at a low speed when the image formation is commenced, and wherein the time difference is then detected.

54. The image forming apparatus according to claim 16, wherein said at least one light beam deflecting device starts rotating at a low speed when the image formation is commenced, and wherein the time difference is then detected.

55. The image forming apparatus according to claim 53, wherein the image formation includes sheet feeding.

56. The image forming apparatus according to claim 54, wherein the image formation includes sheet feeding.

57. The image forming apparatus according to claim 55, wherein the light beam deflection speed is increased by changing the clock pulses to a level used for the image formation after completion of the correction of the magnification errors.

58. The image forming apparatus according to claim 56, wherein said light beam deflection speed is increased by changing the clock pulses to a level used for image formation after completion of the correction of the magnification errors.

Sub B8 59. The image forming apparatus according to claim 15 or claim 16, wherein a time difference is determined without lowering a light beam deflection speed if the image formation is in progress, and the time difference is compared with a first reference time difference so that only existence of the magnification errors can be recognized.

A' cont.

60. The image forming apparatus according to claim 59, wherein the light beam deflection speed is lowered when said magnification error can be recognized, wherein a new time difference is determined and compared with a second reference time difference, and wherein the magnification errors recognized from comparison between the new time difference and the second reference time difference is corrected.

Sub B9 61. The image forming apparatus according to claim 15 or claim 16, wherein the magnification errors are corrected at a prescribed timing corresponding to an interval of sheets fed to the image carrier.

62. The image forming apparatus according to claim 61, wherein the interval of sheets fed is expanded to a prescribed interval if the interval of sheets fed is insufficient to correct the magnification errors.

Sub B10 63. The image forming apparatus according to claim 15 or claim 16, wherein new sheet feed is stopped when a time difference is substantially different from a reference time difference, and wherein the magnification errors are then corrected.

Sub B1 cont

64. An image forming apparatus, comprising:

light beam generating means for generating a light beam;

light beam modulating means for modulating the light beam in accordance with an image signal at a prescribed write clock frequency;

light beam deflecting means for deflecting the light beam for scanning an image carrier in a main scanning direction, said light beam deflecting means rotating by a prescribed rotation number;

A1 cont.

a pair of light beam detecting means for detecting the light beam, said pair of light beam detecting means being separately positioned in the main scanning direction;

time difference determining means for determining a time period elapsing from when the light beam is detected by a first of said pair of light beam detecting means to when the light beam is detected by a second of said pair of light beam detecting means, said time difference determining means generating a time difference signal at an optional timing of image formation;

comparing means for comparing the time difference signal with a reference time difference signal and recognizing magnification errors of the light beam in the main scanning direction, said reference time difference signal representing preferable magnification in the main scanning direction;

magnification correcting means for correcting the magnification errors by changing the prescribed write clock frequency and the prescribed rotation number to prescribed levels based on a result of a comparison between the time difference signal and the reference time difference signal by said comparing means; and

visualizing means for visualizing an image formed on the image carrier after the magnification errors are corrected.

65. An image forming apparatus for forming a color image by superimposing a plurality of different mono color images, said image forming apparatus comprising:

light beam generating means for generating a plurality of light beams;

light beam modulating means for modulating the plurality of light beams in accordance with an applicable mono color image signal at prescribed write clock frequencies;

light beam deflecting means for deflecting the plurality of light beams for scanning an image carrier in a main scanning direction, said light beam deflecting means rotating by a prescribed rotation number;

a pair of light beam detecting means for detecting the plurality of light beams, said pair of light beam detecting means being separately positioned in the main scanning direction;

time difference determining means for determining a time period elapsing from when the plurality of light beams are detected by a first of said pair of light beam detecting means to when the plurality of light beams are detected by a second of said pair of light beam detecting means, said time difference determining means generating a time difference signal at an optional timing during image formation;

comparing means for comparing the time difference signal with a reference time difference signal representing preferable magnification for recognizing magnification errors of the plurality of light beams in the main scanning direction;

magnification correcting means for correcting the magnification errors by changing both of the prescribed write clock frequencies of the plurality of light beams and the prescribed rotation number to prescribed levels based on a result of comparison between the time difference signal and the reference time difference signal by said comparing means; and

visualizing means for visualizing and superimposing a plurality of different mono color images formed on the image carrier after the magnification errors are corrected.

66. An image forming apparatus, comprising:

light beam generating means for generating a light beam;

light beam modulating means for modulating the light beam in accordance with an image signal at a prescribed write clock frequency;

light beam deflecting means for deflecting the light beam for scanning an image carrier in a main scanning direction, said light beam deflecting means rotating by a prescribed rotation number;

optical means for converting the light beam from substantially a uniform angular speed to substantially a uniform speed, said optical means including an fθ lens;

temperature detecting means for detecting temperature of said optical means;

magnification correcting means for correcting magnification error of the light beam in the main scanning direction by changing the prescribed write clock frequency and the prescribed rotation number to prescribed levels in accordance with the temperature detected by said temperature detecting means; and

visualizing means for visualizing an image formed on the image carrier.

67. An image forming apparatus for forming a color image by superimposing different mono color images, said image forming apparatus comprising:

light beam generating means for generating a plurality of light beams;

light beam modulating means for modulating the plurality of light beams in accordance with an applicable mono color image signal at a plurality of prescribed write clock frequencies;

light beam deflecting means for deflecting the plurality of light beams for scanning an image carrier in a main scanning direction, said light beam deflecting means rotating by a prescribed rotation number;

optical means for converting the plurality of light beams from substantially a uniform angular speed to substantially a uniform speed, said optical means including an fθ lens;

temperature detecting means for detecting temperature of said optical means;

image magnification correcting means for correcting magnification errors in the main scanning direction by changing the plurality of write clock frequencies of the plurality of laser beams and the prescribed rotation number of said light beam deflecting means to prescribed levels in accordance with the temperature of said optical unit; and

visualizing means for visualizing and superimposing different mono color images formed on the image carrier after the magnification errors are corrected.

68. A method for forming an image, said method comprising the steps of:

generating a light beam;

modulating the light beam in accordance with an image signal at a prescribed write clock frequency;

deflecting the light beam by rotating a light beam deflecting device by a prescribed rotation number so as to scan an image carrier in a main scanning direction;

detecting the light beam at separate positions in the main scanning direction;

determining a time period elapsing from when the light beam is detected at a first of the separate positions to when the light beam is detected by a second of the separate positions;

generating a time difference signal at an optional timing of image formation;

comparing the time difference signal with a reference time difference signal representing preferable magnification;

recognizing magnification errors of the light beam in the main scanning direction based on a result of said comparing;

correcting the magnification errors by changing the prescribed write clock frequency and the prescribed rotation number to prescribed levels; and

visualizing an image formed on the image carrier after the magnification errors is corrected.

69. A method for forming a color image by superimposing a plurality of different mono color images, said method comprising the steps of:

generating a plurality of light beams;

modulating the plurality of light beams in accordance with an applicable mono color image signal at a plurality of prescribed write clock frequencies;

deflecting the plurality of light beams by rotating a light beam deflecting device by a prescribed rotation number so as to scan an image carrier in a main scanning direction;

detecting the plurality of light beams at separate positions in the main scanning direction;

determining a time period elapsing from when the plurality of light beams are detected at a first of the separate positions to when the plurality of light beams are detected at a second of the separate positions;

generating a time difference signal at an optional timing during image formation;

comparing the time difference signal with a reference time difference signal representing preferable magnification;

recognizing magnification errors of the plurality of light beams in the main scanning direction based on a result of said comparing;

correcting the magnification errors by changing both of the plurality of prescribed write clock frequencies of the plurality of light beams and the prescribed rotation number to prescribed levels; and

visualizing and superimposing different mono color images formed on the image carrier after said correcting the magnification errors is executed.

70. The method according to claim 68, wherein said correcting the magnification errors includes changing the prescribed rotation number of said light bean deflecting device if the magnification errors cannot completely be corrected only by changing the prescribed write clock frequency.

71. The method according to claim 69, wherein said correcting the magnification errors includes changing the prescribed rotation number of said light bean deflecting device if the magnification errors cannot completely be corrected only by changing the plurality of prescribed write clock frequencies.

72. The method according to claim 68, wherein said correcting the magnification errors includes changing the prescribed write clock frequency and the prescribed rotation number after initializing a current rotation number of said light beam deflecting device, and generating and comparing a new time difference signal with the reference time difference signal.

73. The method according to claim 69, wherein said correcting the magnification errors includes changing the plurality of write clock frequencies and the prescribed rotation number after initializing a current rotation number of said light beam deflecting device, and

generating and comparing a new time difference signal with the reference time difference signal.

74. The method according to claim 72, wherein said initializing returns the prescribed rotation number to a prescribed level wherein the magnification errors substantially do not occur.

75. The method according to claim 73, wherein said initializing returns the prescribed rotation number to a prescribed level wherein the magnification errors substantially do not occur.

A' cont.

76. The method according to claim 68, wherein said correcting the magnification errors includes adjusting an image write start position of the light beam in the main scanning direction on the image carrier in accordance with the time difference signal.

77. The method according to claim 69, wherein said correcting the magnification errors includes adjusting an image write start position of the plurality of light beams in the main scanning direction on the image carrier in accordance with the time difference signal.

78. A method for forming an image, said method comprising the steps of:

generating a light beam;

modulating the light beam in accordance with an image signal at a prescribed write clock frequency;

deflecting the light beam by rotating a light beam deflecting device by a prescribed rotation number so as to scan an image carrier in a main scanning direction;

converting the light beam using an fθ lens from substantially a uniform angular speed to substantially a uniform speed;

detecting temperature of said fθ lens;

correcting magnification errors of the light beam in the main scanning direction by changing the prescribed write clock frequency and the prescribed rotation number to prescribed levels in accordance with the temperature detected in said detecting temperature of said fθ lens; and

visualizing an image formed on the image carrier.

79. A method for forming a color image by superimposing different mono color images, said image forming apparatus comprising:

generating a plurality of light beams;

modulating the plurality of light beams in accordance with an applicable mono color image signal at a plurality of prescribed write clock frequencies;

deflecting the plurality of light beams by rotating a light beam deflecting device by a prescribed rotation number so as to scan an image carrier in a main scanning direction;

converting the plurality of light beams using an fθ lens from substantially a uniform angular speed to substantially a uniform speed;

detecting temperature of said fθ lens;

correcting the magnification errors in the main scanning direction by changing a plurality of write clock frequencies of the plurality of laser beams and the prescribed rotation number of said light beam deflecting device to prescribed levels in accordance with the temperature detected in said detecting temperature of said fθ lens; and

visualizing and superimposing different mono color images formed on the image carrier after the magnification errors are corrected.

80. The method according to claim 79, wherein the prescribed rotation number is lowered to substantially a smallest level as color deviation does not occur in a sub-scanning direction.

81. The method according to claim 80, wherein the substantially smallest level is increased to a prior level after the magnification errors, recognized when a light beam deflection speed is lowered, has been corrected.

82. The method according to claim 81, wherein the light beam deflection speed is lowered only when a time difference is to be detected during the image formation.

83. The method according to claim 81, wherein the light beam deflection speed is returned to a level used in image formation after said correcting of the magnification errors has been completed.

84. The method according to claim 68 or claim 69, wherein said light beam deflecting device starts rotating at a low speed when the image formation is commenced, and wherein a time difference is then detected.

85. The method according to claim 81, wherein the light beam deflection speed is increased by changing clock pulses to a level used in the image formation after said correcting of the magnification errors has been completed.

86. The method according to claim 68 or claim 69, wherein a time difference is determined without lowering the light beam deflection speed if the image formation is in progress, and wherein a time difference is compared with a first reference time difference so that only existence of the magnification errors can be recognized.

87. The method according to claim 86, wherein the light beam deflection speed is lowered when the magnification errors can be recognized, wherein a new time difference is determined and compared with a second reference time difference, and wherein the magnification errors, recognized from comparison between the new time difference and the second reference time difference, is corrected.